

## Mechanical Designer/Drafter

### *The Company*

Clear Process Engineering LLC (CPE) provides multidiscipline engineering services to a wide array of clients. CPE has a niche specialty in combustion and steam boiler systems related to solid fuels, specifically biomass. In addition to biomass, CPE offers design services related to steam, hot water, thermal oil, liquid and gaseous burner systems, and solid renewable energy technology development, among many others. CPE is a growing, agile engineering firm with a competitive advantage of fitting into our customers' project teams, however it suits the project. Projects are executed all over the world by CPE.

### *Job Description for a Designer*

Most work performed will be in an office setting, reviewing specifications and other data to develop mechanical and structural layouts. Designers must have working knowledge of mechanical and structural parts as well as computer-aided design (CAD) software, such as AutoCAD, Plant 3D experience is a plus. Designers may travel to job sites or factories to measure the physical dimensions of equipment and observe process equipment.

Designers develop designs (through calculations, company proprietary tools, company standard design details, and experience) for mechanical systems (conveyors, ducting, etc.), process equipment, pressure vessels, and piping systems. The designs are then 3D modeled and detailed in 2D in Autodesk Plant 3D or Inventor.

### *Designer Duties*

The designer must attend project meetings with project managers, engineers, and clients to understand the needs and requirements for a new project or mechanical system. The designer must consult with the project engineers and design team regarding project requirements. Designer will use CAD software to plan and develop models and/or drawings. This includes checking for system function, constructability, reliability, and performance.

Once a preliminary model or drawings are complete, designers are responsible for finalizing designs and creating design drawings at the direction of the project engineer or lead designer.

### *Requirements for a Designer*

Technical certificate or associate degree in mechanical design technology or a related field. Bachelor's degree in industrial design a plus.

Familiar with CAD interfaces, inputs, and concepts.

Able to develop 2- and 3-dimensional designs of mechanical devices, piping systems, structural designs, general systems layouts, and detailed fabrication drawings.



- At least 2 years of related experience pertaining to industrial equipment and systems design.
- Basic knowledge of AutoCAD 2022 and Plant 3D.
- Effective use of Microsoft applications.
- Associate degree or technical school certificate, minimum.
- Working knowledge of cloud-based, collaborative workflow processes.
- Design background with mechanical components.
- An eye for detail and the ability to read/interpret complex drawings.
- Self-starting but also willing and able to work in a team environment.
- Excellent team collaboration and team respect.
- Strong and demonstrable ethical integrity.
- Identifies and develops areas for continuous improvement within the company.

#### *Responsibilities of the Designer*

- Generates engineering drawings using Plant 3D.
- Develops piping designs utilizing Plant 3D CAD software.
- Generates equipment arrangements and piping routing from concept flow diagrams, P&IDs, and process specifications.
- Drafts detailed shop drawings for duct, mechanical pipework, pressure vessels, mechanical devices, and structural steel.
- Follows company drafting standards and documentation and work to continuously contribute to improving drafting and modeling standards.
- Attends coordination meetings and working with other trades to develop effective bid and fabrication drawings.
- Develops project bills of material (BOM).
- Develops piping isometrics, equipment arrangements, and piping supports from piping models.
- Assists project team in developing bids, proposals, scopes of work, estimates, schedules, material lists, design concepts, design drawings, and other project documentation.
- Works to deadlines and budgets while on simultaneous projects.
- Adheres to all safety guidelines and procedures.

#### *Pay & Benefits*

- Position Type – salaried, exempt, at-will
- Pay will be dependent on experience
- Pay is once per month on the 15th
- Annual bonuses paid based on performance of the employee and the company
- Paid Time Off (PTO) – 80 to 120 hours per year, accrued monthly
- Nine (9) Paid Holidays per year
- Health Insurance Stipend of \$400/month provided
- Retirement – Simple IRA through Edward Jones. Company will match the Employee's contribution, up to 3.0% of the Employee's base salary